

INTISARI

PENGARUH EOSINOPENIA PERSISTEN DAN LIMFOPENIA PERSISTEN DALAM MEMPREDIKSI LUARAN STATUS HIDUP PASIEN SEPSIS DI RSUP DR. SARDJITO YOGYAKARTA

Almaas Salmaa Lathiifa¹,
Rizka Humardewyanti Asdie², Deshinta Putri Mulya²

¹Program Studi Kedokteran FK-KMK UGM

²Departemen Ilmu Penyakit Dalam

Fakultas Kedokteran, Kesehatan Masyarakat, dan Keperawatan UGM/ RSUP Dr.
Sardjito Yogyakarta

Latar Belakang. Sepsis adalah respon kekacauan tubuh terhadap infeksi yang berujung disfungsi organ. Di dalamnya, selain inflamasi berkelanjutan juga terjadi immunosupresi. Eosinopenia persisten dan limfopenia persisten disebut bisa memprediksi pasien dengan risiko kematian tinggi. Angka eosinofil dan limfosit bisa didapatkan dengan cepat, mudah, dan murah dibanding marka sepsis lainnya.

Tujuan Penelitian. Mengetahui performa dan pengaruh eosinopenia persisten serta limfopenia persisten dalam memprediksi luaran pasien sepsis dan kesintasan menyeluruh pasien sepsis dalam 14 hari.

Metode Penelitian. Penelitian ini menggunakan desain kohort retrospektif. Subjek penelitian adalah pasien sepsis yang dirawat di Unit Penyakit Dalam RSUP Dr. Sardjito sejak Januari 2015 hingga Desember 2017 yang sesuai kriteria inklusi dan eksklusi. Perangkat lunak SPSS digunakan untuk analisis sampel. Kurva *Receiver Operating Characteristics* (ROC) digunakan untuk menentukan nilai batas dan performa variabel. Eosinopenia persisten dan limfopenia persisten adalah angka eosinofil dan limfosit hari ke-3/4/5 yang tetap lebih rendah dari nilai batas tersebut. *Hazard Ratio* (HR) digunakan untuk menentukan besar risiko, bermakna jika $p < 0,05$ dengan interval kepercayaan 95% dan $HR > 1$. Kurva Kaplan-Meier digunakan untuk analisis kesintasan.

Hasil Penelitian. Nilai batas eosinopenia dan limfopenia adalah $\leq 20,35$ dan $\leq 891,84$ sel/ μ l. *Area Under Curve* (AUC) angka eosinofil dan limfosit hari 1 adalah 0,365 dan 0,452. Dari 108 pasien sepsis, 17 termasuk eosinopenia persisten dan 91 tidak; 32 limfopenia persisten dan 76 tidak. Eosinopenia persisten dan limfopenia persisten memiliki HR 2,939 ($p = 0,007$) dan 2,257 ($p = 0,024$) dalam memprediksi luaran pasien sepsis dalam 14 hari. Tingkat kesintasan keseluruhan pasien dengan eosinopenia persisten lebih rendah dibanding non-eosinopenia persisten (47,1% dan 75,8%), begitu pula pasien dengan limfopenia persisten dibanding non-limfopenia persisten (56,3% dan 77,6%).

Kesimpulan. Eosinopenia persisten dan limfopenia persisten dapat memprediksi luaran status hidup pasien sepsis dalam 14 hari.

Kata kunci: sepsis, luaran, eosinopenia persisten, limfopenia persisten, prognosis, kesintasan

ABSTRACT

ROLE OF PERSISTENT EOSINOPENIA AND PERSISTENT LYMPHOPENIA IN PREDICTING THE OUTCOME OF SEPTIC PATIENTS IN RSUP DR. SARDJITO YOGYAKARTA

Almaas Salmaa Lathiifa¹,
Rizka Humardewyanti Asdie², Deshinta Putri Mulya²

¹Undergraduate Program School of Medicine FM-PHN UGM

²Department of Internal Medicine

Faculty of Medicine, Public Health, and Nursing UGM/ Dr. Sardjito General
Hospital Yogyakarta

Background. Sepsis is a disordered response of the body to infection that leads to organ dysfunction. It reflects a process of prolonged inflammation and immunosuppression. Persistent eosinopenia and persistent lymphopenia are thought to predict patients at high risk of death. Eosinophil and lymphocyte counts can be obtained quickly, easily, and cheaply compared to other sepsis markers.

Objectives. This study aims to evaluate the performance and role of persistent eosinopenia and persistent lymphopenia in predicting the outcome of septic patients and overall survival of septic patients in 14 days.

Methods. This study used a retrospective cohort design. The research subjects were septic patients who were treated at Internal Medicine Unit of Dr. Sardjito General Hospital from January 2015 to December 2017. Sample analysis was done using SPSS software. Receiver Operating Characteristics (ROC) curve was used to determine the cut-off values and variables' performances. Persistent eosinopenia and persistent lymphopenia was described as eosinophil and lymphocyte counts on day 3/4/5 that remained lower than these cut-offs. Hazard Ratio (HR) was used to estimate the risk with statistically significant result if $p < 0.05$ with 95% confidence interval and $HR > 1$. Kaplan-Meier curve reflects the survival analysis.

Results. The cut-offs of eosinopenia and lymphopenia were ≤ 20.35 and ≤ 891.84 cells/ μ l, respectively. Area Under Curve (AUC) of eosinophil and lymphocyte counts on day 1 were 0.365 and 0.452. Of the 108 septic patients, 17 had persistent eosinopenia and 91 had no; 32 had persistent lymphopenia and 76 had no. Persistent eosinopenia and persistent lymphopenia had HRs of 2.939 ($p = 0.007$) and 2.257 ($p = 0.024$) in predicting the 14-day outcome of septic patients. The overall survival rate of patients with persistent eosinopenia was lower than that of non-persistent eosinopenia (47.1% and 75.8%), as well as persistent lymphopenia compared to non-persistent lymphopenia (56.3% and 77.6%).

Conclusion. Persistent eosinopenia and persistent lymphopenia can predict the 14-day outcome of septic patients.

Keywords: sepsis, outcome, persistent eosinopenia, persistent lymphopenia, prognosis, survival